

**WHAT IS CLAIMED IS:**

1. An MPEG picture data recording apparatus for recording  
an MPEG picture data that is a picture data compressed according  
5 to an MPEG encoding system, the MPEG picture data recording  
apparatus comprising:

recording means for recording the MPEG picture data onto  
a recording medium together with information that shows a VBV  
buffer occupation value at an end point in time of encoding  
10 of a picture one frame before an I picture, information that  
shows a VBV buffer occupation value at an end point in time  
of encoding of a picture one frame before a P picture, and  
information that shows a VBV buffer occupation value at an  
end point in time of recording, in a bit stream of the MPEG  
15 picture data respectively, and address information that shows  
a point of time of the MPEG picture data each VBV buffer  
occupation value belongs to.

2. An MPEG picture data recording apparatus for recording  
20 an MPEG picture data that is a picture data compressed according  
to an MPEG encoding system, wherein

in the case of additionally recording a second MPEG  
picture data at an end position of a first MPEG picture data  
or at an intermediate position of the first MPEG picture data  
25 onto a recording medium that has already been recorded  
with the first MPEG picture data, together with information  
that shows a VBV buffer occupation value at an end point in  
time of encoding of a picture one frame before an I picture,  
information that shows a VBV buffer occupation value at an  
30 end point in time of encoding of a picture one frame before  
a P picture, and information that shows a VBV buffer occupation  
value at an end point in time of recording, in a bit stream  
of the first MPEG picture data respectively, and address  
information that shows a point of time of the first MPEG picture  
35 data each VBV buffer occupation value belongs to,

the MPEG picture data recording apparatus comprises:

detecting means for detecting information that shows the VBV buffer occupation value corresponding to a position nearest to the position of starting the additional recording of the second MPEG picture data in the first MPEG picture data, based on the address information;

encoding means for executing an MPEG encoding of the second picture data and obtaining the second MPEG picture data, while starting a VBV buffer control based on the detected information that shows the VBV buffer occupation value,; and

recording means for recording the second MPEG picture data onto the recording medium.

3. An MPEG picture data recording method for recording an MPEG picture data that is a picture data compressed according to an MPEG encoding system, the MPEG picture data recording method comprising the steps of:

generating information that shows a VBV buffer occupation value at an end point in time of encoding of a picture one frame before an I picture, information that shows a VBV buffer occupation value at an end point in time of encoding of a picture one frame before a P picture, and information that shows a VBV buffer occupation value at an end point in time of recording, in a bit stream of the MPEG picture data respectively;

generating address information that shows a point of time of the MPEG picture data each VBV buffer occupation value belongs to; and

recording the information that shows each VBV buffer occupation value, and the address information onto a recording medium together with the MPEG picture data.

4. An MPEG picture data recording method for recording an MPEG picture data that is a picture data compressed according to an MPEG encoding system, wherein

in the case of additionally recording a second MPEG picture data at an end position of a first MPEG picture data

or at an intermediate position of the first MPEG picture data  
onto a recording medium that has already been recorded  
with the first MPEG picture data, together with information  
that shows a VBV buffer occupation value at an end point in  
5 time of encoding of a picture one frame before an I picture,  
information that shows a VBV buffer occupation value at an  
end point in time of encoding of a picture one frame before  
a P picture, and information that shows a VBV buffer occupation  
value at an end point in time of recording, in a bit stream  
10 of the first MPEG picture data respectively, and address  
information that shows a point of time of the first MPEG picture  
data each VBV buffer occupation value belongs to,

the MPEG picture data recording method comprises the  
steps of:

15 detecting information that shows the VBV buffer  
occupation value corresponding to a position nearest to the  
position of starting the additional recording of the second  
MPEG picture data in the first MPEG picture data, based on  
the address information;

20 executing an MPEG encoding of the second picture  
data and obtaining the second MPEG picture data, while starting  
a VBV buffer control based on the detected information that  
shows the VBV buffer occupation value,; and

recording the second MPEG picture data onto the  
25 recording medium.

5. A recording medium that is recorded with  
an MPEG picture data as a picture data compressed  
according to an MPEG encoding system, together with  
30 information that shows a VBV buffer occupation value  
at an end point in time of encoding of a picture one frame  
before an I picture, information that shows a VBV buffer  
occupation value at an end point in time of encoding of a picture  
one frame before a P picture, and information that shows a  
35 VBV buffer occupation value at an end point in time of recording,  
in a bit stream of the MPEG picture data respectively, and

address information that shows a point of time of the MPEG picture data each VBV buffer occupation value belongs to.

6. An MPEG picture data recording apparatus for recording  
5 an MPEG picture data that is a picture data encoded according to an MPEG encoding system, the MPEG picture data recording apparatus comprising:

VBV buffer information recording means for recording  
onto a recording medium, VBV buffer occupation value relevant  
10 information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each predetermined section of the MPEG picture data, and address information that shows a position of the VBV buffer occupation  
15 value relevant information in the MPEG picture data.

7. An MPEG picture data recording apparatus comprising  
recording means for recording a generated connection section  
re-encoded data that has been encoded according to an MPEG  
20 encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified  
25 in the respective MPEG picture data, wherein

the first MPEG picture data VBV has first VBV buffer  
occupation value relevant information that shows an  
information value relating to a VBV buffer occupation value  
at an MPEG encoding starting point in time or an end point  
30 in time of a last picture in each first predetermined section of the first MPEG picture data, and first address information that shows a position of the first VBV buffer occupation value relevant information in the first MPEG picture data,

the second MPEG picture data VBV has second VBV buffer  
35 occupation value relevant information that shows an information value relating to a VBV buffer occupation value

at an MPEG encoding starting point in time or an end point  
in time of a last picture in each second predetermined section  
of the second MPEG picture data, and second address information  
that shows a position of the second VBV buffer occupation value  
5 relevant information in the second MPEG picture data, and  
the recording means comprises:

detecting means for detecting the first VBV buffer  
occupation value relevant information corresponding to a  
starting position of a connection section based on the first  
10 address information, and detecting the second VBV buffer  
occupation value relevant information corresponding to the  
specified connection position in the second MPEG picture data  
based on the second address information, with the specified  
connection position specified as a boundary of the second  
15 predetermined section in at least the second MPEG picture data,  
wherein the connection section is a section from a boundary  
of the first predetermined section located a predetermined  
time before the specified connection position in the first  
MPEG picture data as the starting position to the specified  
20 connection position in the first MPEG picture data as an end  
position; and

re-encoding means for re-encoding the connection  
section decoded picture data as a picture data obtained by  
decoding the first MPEG picture data in the connection section,  
25 according to the MPEG encoding system, thereby to obtain the  
connection section re-encoded data, by executing the  
re-encoding while controlling the amount of code such that  
a transition of the information value relating to the VBV buffer  
occupation value at the time of the re-encoding starts from  
30 the information value relating to the VBV buffer occupation  
value obtained based on the detected first VBV buffer  
occupation value relevant information and ends with the  
information value relating to the VBV buffer occupation value  
obtained based on the detected second VBV buffer occupation  
35 value relevant information,

thereby recording the connection section

re-encoded data onto a recording medium.

8. The MPEG picture data recording apparatus according to Claim 7, wherein the recording means records a connection  
5 section MPEG multiplexed data that includes the connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

10 9. An MPEG picture data recording apparatus comprising recording means for recording a generated connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture  
15 data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

the first MPEG picture data VBV has first VBV buffer  
20 occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each first predetermined section of the first MPEG picture data, and first address information  
25 that shows a position of the first VBV buffer occupation value relevant information in the first MPEG picture data,

the second MPEG picture data VBV has second VBV buffer  
occupation value relevant information that shows an  
30 information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each second predetermined section of the second MPEG picture data, and second address information that shows a position of the second VBV buffer occupation value relevant information in the second MPEG picture data, and

35 the recording means comprises:

detecting means for detecting the first VBV buffer

occupation value relevant information corresponding to an  
specified connection position in the first MPEG picture data  
based on the first address information, and detecting the  
second VBV buffer occupation value relevant information  
5 corresponding to an end position of a connection section based  
on the second address information, with the specified  
connection position specified as a boundary of the first  
predetermined section in at least the first MPEG picture data,  
wherein the connection section is a section from the specified  
10 connection position in the second MPEG picture data as a  
starting position to a boundary of the second predetermined  
section located a predetermined time after the specified  
connection position in the second MPEG picture data as the  
end position; and  
15 re-encoding means for re-encoding the connection  
section decoded picture data as a picture data obtained by  
decoding the second MPEG picture data in the connection section,  
according to the MPEG encoding system, thereby to obtain the  
connection section re-encoded data, by executing the  
20 re-encoding while controlling the amount of code such that  
a transition of the information value relating to the VBV buffer  
occupation value at the time of the re-encoding starts from  
the information value relating to the VBV buffer occupation  
value obtained based on the detected first VBV buffer  
25 occupation value relevant information and ends with the  
information value relating to the VBV buffer occupation value  
obtained based on the detected second VBV buffer occupation  
value relevant information,  
thereby recording the connection section  
30 re-encoded data onto a recording medium.

10. The MPEG picture data recording apparatus according  
to Claim 9, wherein the recording means records a connection  
section MPEG multiplexed data that includes the connection  
35 section re-encoded data as an element encoded data and that  
has been generated by being packet-multiplexed according to

the MPEG encoding system.

11. An MPEG picture data recording apparatus comprising recording means for recording a generated third connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

the first MPEG picture data VBV has first VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each first predetermined section of the first MPEG picture data, and first address information that shows a position of the first VBV buffer occupation value relevant information in the first MPEG picture data,

the second MPEG picture data VBV has second VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each second predetermined section of the second MPEG picture data, and second address information that shows a position of the second VBV buffer occupation value relevant information in the second MPEG picture data, and

the recording means comprises:

detecting means for detecting the first VBV buffer occupation value relevant information corresponding to a starting position of a first connection section based on the first address information, and detecting the second VBV buffer occupation value relevant information corresponding to an end position of a second connection section based on the second address information, wherein the first connection section is a section from a boundary of the first predetermined section



located a first predetermined time before the specified connection position in the first MPEG picture data as the starting position to the specified connection position in the first MPEG picture data as an end position, and the second connection section is a section from the specified connection position in the second MPEG picture data to a boundary of the second predetermined section located a second predetermined time after the specified connection position in the second MPEG picture data as an end position; and

re-encoding means for re-encoding a third connection section decoded picture data according to the MPEG encoding system thereby to obtain a third connection section re-encoded data, by executing the re-encoding while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value obtained based on the detected first VBV buffer occupation value relevant information and ends with the information value relating to the VBV buffer occupation value obtained based on the detected second VBV buffer occupation value relevant information, wherein the third connection section is a section obtained by combining the first connection section and the second connection section together, and the third connection section decoded picture data consists of a first connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in the first connection section, and a second connection section decoded picture data as a picture data obtained by decoding the second MPEG picture data in the second connection section,

thereby recording the third connection section re-encoded data onto a recording medium.

12. The MPEG picture data recording apparatus according to claim 11, wherein the recording means records a connection section MPEG multiplexed data that includes the third

connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

5           13. An MPEG picture data recording apparatus for recording an MPEG multiplexed data that includes an MPEG picture data as a picture data encoded according to an MPEG encoding system as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG  
10 encoding system, the MPEG picture data recording apparatus comprising:

VBV buffer information recording means for recording onto a recording medium, VBV buffer occupation value relevant information that shows an information value relating to a VBV  
15 buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each predetermined section of the MPEG picture data, and address information that shows a position of the VBV buffer occupation value relevant information in the MPEG picture data.

20           14. An MPEG picture data recording medium that is recorded with

two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according  
25 to an MPEG encoding system, and

a connection section re-encoded data encoded according to the MPEG encoding system as a data for reproducing the first MPEG picture data and the second MPEG picture data by connecting the first MPEG picture data to the second MPEG picture data  
30 at specified connection positions specified in the first and second MPEG picture data respectively, wherein

the connection section re-encoded data is a re-encoded data generated by re-encoding a connection section decoded picture data as a picture data obtained by decoding the first  
35 MPEG picture data in a connection section, according to the MPEG encoding system, wherein the connection section is a

section from a position located a predetermined time before the specified connection position in the first MPEG picture data as a starting position to the specified connection position in the first MPEG picture data as an end position,

5 and

the re-encoding is executed while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value at the time of encoding the first MPEG picture data at a position corresponding to the starting position of the connection section and ends with the information value relating to the VBV buffer occupation value at the time of encoding the second MPEG picture data at a position corresponding to the specified connection position.

15 15. An MPEG picture data recording medium that is recorded with

two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to an MPEG encoding system, and

a connection section re-encoded data encoded according to the MPEG encoding system as a data for reproducing the first MPEG picture data and the second MPEG picture data by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the first and second MPEG picture data respectively, wherein

the connection section re-encoded data is a re-encoded data generated by re-encoding a connection section decoded picture data as a picture data obtained by decoding the second MPEG picture data in a connection section, according to the MPEG encoding system, wherein the connection section is a section from the specified connection position in the second MPEG picture data as a starting position to a position located a predetermined time after the specified connection position in the second MPEG picture data as an end position, and

the re-encoding is executed while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value at the time of encoding the first MPEG picture data at a position corresponding to the specified connection position and ends with the information value relating to the VBV buffer occupation value at the time of encoding the second MPEG picture data at a position corresponding to the end position of the connection section.

16. An MPEG picture data recording medium that is recorded with

two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to an MPEG encoding system, and

a third connection section re-encoded data encoded according to the MPEG encoding system as a data for reproducing the first MPEG picture data and the second MPEG picture data by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the first and second MPEG picture data respectively, wherein

the third connection section re-encoded data is an encoded data obtained by re-encoding a third connection section decoded picture data consisting of a first connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in a first connection section, and a second connection section decoded picture data as a picture data obtained by decoding the second MPEG picture data in the second connection section, wherein the first connection section is a section from a position located a first predetermined time before the specified connection position in the first MPEG picture data as a starting position to the specified connection position in the first MPEG picture data as an end position, the second connection section is a section from the specified connection position in the second MPEG

picture data to a position located a second predetermined time after the specified connection position in the second MPEG picture data as an end position, and the third connection section is a section consisting of the first connection section and the second connection section; and

the re-encoding is executed while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value at the time of encoding the first MPEG picture data at a position corresponding to the specified connection position and ends with the information value relating to the VBV buffer occupation value at the time of encoding the second MPEG picture data at a position corresponding to the end position of the connection section.

17. An MPEG picture data recording medium recorded with a first MPEG multiplexed data that includes a first MPEG picture data as a picture data encoded according to an MPEG encoding system as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system,

a second MPEG multiplexed data that includes a second MPEG picture data as a picture data encoded according to an MPEG encoding system as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, and

a connection section MPEG multiplexed data that includes a connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, wherein the connection section re-encoded data is a data encoded according to the MPEG encoding system, for reproducing the first MPEG picture data and the second MPEG picture data by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture

data, wherein

the connection section re-encoded data is a re-encoded data generated by re-encoding a connection section decoded picture data as a picture data obtained by decoding the first  
5 MPEG picture data in a connection section, according to the MPEG encoding system, wherein the connection section is a section from a position located a predetermined time before the specified connection position in the first MPEG picture data as a starting position to the specified connection  
10 position in the first MPEG picture data as an end position, and

the re-encoding is executed while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding  
15 starts from the information value relating to the VBV buffer occupation value at the time of encoding the first MPEG picture data at a position corresponding to the starting position of the connection section and ends with the information value relating to the VBV buffer occupation value at the time of  
20 encoding the second MPEG picture data at a position corresponding to the specified connection position.

18. An MPEG picture data recording medium recorded with a first MPEG multiplexed data that includes a first MPEG  
25 picture data as a picture data encoded according to an MPEG encoding system as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system,

a second MPEG multiplexed data that includes a second  
30 MPEG picture data as a picture data encoded according to an MPEG encoding system as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, and

a connection section MPEG multiplexed data that includes  
35 a connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed

according to the MPEG encoding system, wherein the connection section re-encoded data is a data encoded according to the MPEG encoding system, for reproducing the first MPEG picture data and the second MPEG picture data by connecting the first  
5 MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

the connection section re-encoded data is a re-encoded data generated by re-encoding a connection section decoded  
10 picture data as a picture data obtained by decoding the second MPEG picture data in a connection section, according to the MPEG encoding system, wherein the connection section is a section from the specified connection position in the second MPEG picture data as a starting position to a position located  
15 a predetermined time after the specified connection position in the second MPEG picture data as an end position, and

the re-encoding is executed while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding  
20 starts from the information value relating to the VBV buffer occupation value at the time of encoding the first MPEG picture data at a position corresponding to the specified connection position and ends with the information value relating to the VBV buffer occupation value at the time of encoding the second  
25 MPEG picture data at a position corresponding to the end position of the connection section.

19. An MPEG picture data recording medium recorded with a first MPEG multiplexed data that includes a first MPEG  
30 picture data as a picture data encoded according to an MPEG encoding system as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system,

a second MPEG multiplexed data that includes a second  
35 MPEG picture data as a picture data encoded according to an MPEG encoding system as an element encoded data and that has

been generated by being packet-multiplexed according to the MPEG encoding system, and

5 a third connection section MPEG multiplexed data that includes a third connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, wherein the connection section re-encoded data is a data encoded according to the MPEG encoding system, for reproducing the first MPEG picture data and the second MPEG picture data  
10 by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

the third connection section re-encoded data is an encoded data obtained by re-encoding a third connection section  
15 decoded picture data consisting of a first connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in a first connection section, and a second connection section decoded picture data as a picture data obtained by decoding the second MPEG picture data  
20 in the second connection section, wherein the first connection section is a section from a position located a first predetermined time before the specified connection position in the first MPEG picture data as a starting position to the specified connection position in the first MPEG picture data  
25 as an end position, the second connection section is a section from the specified connection position in the second MPEG picture data to a position located a second predetermined time after the specified connection position in the second MPEG picture data as an end position, and the third connection  
30 section is a section consisting of the first connection section and the second connection section; and

the re-encoding is executed while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding  
35 starts from the information value relating to the VBV buffer occupation value at the time of encoding the first MPEG picture



data at a position corresponding to the specified connection position and ends with the information value relating to the VBV buffer occupation value at the time of encoding the second MPEG picture data at a position corresponding to the end position of the connection section.

20. An MPEG picture data generating apparatus comprising generating means for generating a connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

the first MPEG picture data has first VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each first predetermined section of the first MPEG picture data, and first address information that shows a position of the first VBV buffer occupation value relevant information in the first MPEG picture data,

the second MPEG picture data has second VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each second predetermined section of the second MPEG picture data, and second address information that shows a position of the second VBV buffer occupation value relevant information in the second MPEG picture data, and

the generating means comprises:

detecting means for detecting the first VBV buffer occupation value relevant information corresponding to a starting position of a connection section based on the first address information, and detecting the second VBV buffer

occupation value relevant information corresponding to the specified connection position in the second MPEG picture data based on the second address information, with the specified connection position specified as a boundary of the second predetermined section in at least the second MPEG picture data, wherein the connection section is a section from a boundary of the first predetermined section located a predetermined time before the specified connection position in the first MPEG picture data as the starting position to the specified connection position in the first MPEG picture data as an end position; and

re-encoding means for re-encoding the connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in the connection section, according to the MPEG encoding system, thereby to obtain the connection section re-encoded data, by executing the re-encoding while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value obtained based on the detected first VBV buffer occupation value relevant information and ends with the information value relating to the VBV buffer occupation value obtained based on the detected second VBV buffer occupation value relevant information.

21. The MPEG picture data generating apparatus according to Claim 20, wherein the generating means generates a connection section MPEG multiplexed data that includes the connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

22. An MPEG picture data generating apparatus comprising generating means for generating a connection section re-encoded data that has been encoded according to an MPEG

encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

the first MPEG picture data has first VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each first predetermined section of the first MPEG picture data, and first address information that shows a position of the first VBV buffer occupation value relevant information in the first MPEG picture data,

the second MPEG picture data has second VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each second predetermined section of the second MPEG picture data, and second address information that shows a position of the second VBV buffer occupation value relevant information in the second MPEG picture data, and

the generating means comprises:

detecting means for detecting the first VBV buffer occupation value relevant information corresponding to an specified connection position in the first MPEG picture data based on the first address information, and detecting the second VBV buffer occupation value relevant information corresponding to an end position of a connection section based on the second address information, with the specified connection position specified as a boundary of the first predetermined section in at least the first MPEG picture data, wherein the connection section is a section from the specified connection position in the second MPEG picture data as a starting position to a boundary of the second predetermined section located a predetermined time after the specified

connection position in the second MPEG picture data as the end position; and

re-encoding means for re-encoding the connection section decoded picture data as a picture data obtained by decoding the second MPEG picture data in the connection section, according to the MPEG encoding system, thereby to obtain the connection section re-encoded data, by executing the re-encoding while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value obtained based on the detected first VBV buffer occupation value relevant information and ends with the information value relating to the VBV buffer occupation value obtained based on the detected second VBV buffer occupation value relevant information.

23. The MPEG picture data generating apparatus according to Claim 22, wherein the generating means generates a connection section MPEG multiplexed data that includes the connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

24. An MPEG picture data generating apparatus comprising generating means for generating a third connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

the first MPEG picture data has first VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value

at an MPEG encoding starting point in time or an end point  
in time of a last picture in each first predetermined section  
of the first MPEG picture data, and first address information  
that shows a position of the first VBV buffer occupation value  
5 relevant information in the first MPEG picture data,

the second MPEG picture data has second VBV buffer  
occupation value relevant information that shows an  
information value relating to a VBV buffer occupation value  
at an MPEG encoding starting point in time or an end point  
10 in time of a last picture in each second predetermined section  
of the second MPEG picture data, and second address information  
that shows a position of the second VBV buffer occupation value  
relevant information in the second MPEG picture data, and

the generating means comprises:

15 detecting means for detecting the first VBV buffer  
occupation value relevant information corresponding to a  
starting position of a first connection section based on the  
first address information, and detecting the second VBV buffer  
occupation value relevant information corresponding to an end  
20 position of a second connection section based on the second  
address information, wherein the first connection section is  
a section from a boundary of the first predetermined section  
located a first predetermined time before the specified  
connection position in the first MPEG picture data as the  
25 starting position to the specified connection position in the  
first MPEG picture data as an end position, and the second  
connection section is a section from the specified connection  
position in the second MPEG picture data to a boundary of the  
second predetermined section located a second predetermined  
30 time after the specified connection position in the second  
MPEG picture data as an end position; and

re-encoding means for re-encoding a third  
connection section decoded picture data according to the MPEG  
encoding system thereby to obtain a third connection section  
35 re-encoded data, by executing the re-encoding while  
controlling the amount of code such that a transition of the

information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value obtained based on the detected first VBV buffer occupation value relevant information and ends with the information value relating to the VBV buffer occupation value obtained based on the detected second VBV buffer occupation value relevant information, wherein the third connection section is a section obtained by combining the first connection section and the second connection section together, and the third connection section decoded picture data consists of a first connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in the first connection section, and a second connection section decoded picture data as a picture data obtained by decoding the second MPEG picture data in the second connection section.

25. The MPEG picture data generating apparatus according to Claim 24, wherein the generating means generates a third connection section MPEG multiplexed data that includes the third connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

26. An MPEG picture data recording method comprising the steps of:

recording onto a recording medium, VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each predetermined section of an MPEG picture data that is a picture data encoded according to an MPEG encoding system, and address information that shows a position of the VBV buffer occupation value relevant information in the MPEG picture data.

27. The MPEG picture data recording method according

to Claim 26, wherein the MPEG picture data is obtained from an MPEG multiplexed data that has been generated by being packet-multiplexed according to the MPEG encoding system.

5           28. An MPEG picture data recording method comprising a recording step of recording a generated connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

10           the first MPEG picture data VBV has first VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each first predetermined section of the first MPEG picture data, and first address information that shows a position of the first VBV buffer occupation value relevant information in the first MPEG picture data,

15           the second MPEG picture data VBV has second VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each second predetermined section of the second MPEG picture data, and second address information that shows a position of the second VBV buffer occupation value relevant information in the second MPEG picture data, and

20           the recording step comprises:

25           a detecting step of detecting the first VBV buffer occupation value relevant information corresponding to a starting position of a connection section based on the first address information, and detecting the second VBV buffer occupation value relevant information corresponding to the specified connection position in the second MPEG picture data

based on the second address information, with the specified connection position specified as a boundary of the second predetermined section in at least the second MPEG picture data, wherein the connection section is a section from a boundary of the first predetermined section located a predetermined time before the specified connection position in the first MPEG picture data as the starting position to the specified connection position in the first MPEG picture data as an end position; and

10 a re-encoding step of re-encoding the connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in the connection section, according to the MPEG encoding system, thereby to obtain the connection section re-encoded data, by executing the  
15 re-encoding while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value obtained based on the detected first VBV buffer occupation value relevant information and ends with the  
20 information value relating to the VBV buffer occupation value obtained based on the detected second VBV buffer occupation value relevant information,  
thereby recording the connection section  
25 re-encoded data onto a recording medium.

29. The MPEG picture data recording method according to Claim 28, wherein the recording step records a connection section MPEG multiplexed data that includes the connection  
30 section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

30. An MPEG picture data recording method comprising  
35 a recording step of recording a generated connection section re-encoded data that has been encoded according to an MPEG



encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second  
5 MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

the first MPEG picture data VBV has first VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value  
10 at an MPEG encoding starting point in time or an end point in time of a last picture in each first predetermined section of the first MPEG picture data, and first address information that shows a position of the first VBV buffer occupation value relevant information in the first MPEG picture data,

15 the second MPEG picture data VBV has second VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each second predetermined section  
20 of the second MPEG picture data, and second address information that shows a position of the second VBV buffer occupation value relevant information in the second MPEG picture data, and

the recording step comprises:

a detecting step of detecting the first VBV buffer  
25 occupation value relevant information corresponding to an specified connection position in the first MPEG picture data based on the first address information, and detecting the second VBV buffer occupation value relevant information corresponding to an end position of a connection section based  
30 on the second address information, with the specified connection position specified as a boundary of the first predetermined section in at least the first MPEG picture data, wherein the connection section is a section from the specified connection position in the second MPEG picture data as a  
35 starting position to a boundary of the second predetermined section located a predetermined time after the specified

connection position in the second MPEG picture data as the end position; and

5 a re-encoding step of re-encoding the connection section decoded picture data as a picture data obtained by decoding the second MPEG picture data in the connection section, according to the MPEG encoding system, thereby to obtain the connection section re-encoded data, by executing the re-encoding while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value obtained based on the detected first VBV buffer occupation value relevant information and ends with the information value relating to the VBV buffer occupation value obtained based on the detected second VBV buffer occupation value relevant information,

15 thereby recording the connection section re-encoded data onto a recording medium.

20 31. The MPEG picture data recording method according to Claim 30, wherein the recording step records a connection section MPEG multiplexed data that includes the connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

25 32. An MPEG picture data recording method comprising a recording step of recording a generated third connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, wherein

30 the first MPEG picture data VBV has first VBV buffer

occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each first predetermined section of the first MPEG picture data, and first address information that shows a position of the first VBV buffer occupation value relevant information in the first MPEG picture data,

the second MPEG picture data VBV has second VBV buffer occupation value relevant information that shows an information value relating to a VBV buffer occupation value at an MPEG encoding starting point in time or an end point in time of a last picture in each second predetermined section of the second MPEG picture data, and second address information that shows a position of the second VBV buffer occupation value relevant information in the second MPEG picture data, and

the recording step comprises:

a detecting step of detecting the first VBV buffer occupation value relevant information corresponding to a starting position of a first connection section based on the first address information, and detecting the second VBV buffer occupation value relevant information corresponding to an end position of a second connection section based on the second address information, wherein the first connection section is a section from a boundary of the first predetermined section located a first predetermined time before the specified connection position in the first MPEG picture data as the starting position to the specified connection position in the first MPEG picture data as an end position, and the second connection section is a section from the specified connection position in the second MPEG picture data to a boundary of the second predetermined section located a second predetermined time after the specified connection position in the second MPEG picture data as an end position; and

a re-encoding step of re-encoding a third connection section decoded picture data according to the MPEG encoding system thereby to obtain a third connection section

re-encoded data, by executing the re-encoding while  
controlling the amount of code such that a transition of the  
information value relating to the VBV buffer occupation value  
at the time of the re-encoding starts from the information  
5 value relating to the VBV buffer occupation value obtained  
based on the detected first VBV buffer occupation value  
relevant information and ends with the information value  
relating to the VBV buffer occupation value obtained based  
on the detected second VBV buffer occupation value relevant  
10 information, wherein the third connection section is a section  
obtained by combining the first connection section and the  
second connection section together, and the third connection  
section decoded picture data consists of a first connection  
section decoded picture data as a picture data obtained by  
15 decoding the first MPEG picture data in the first connection  
section, and a second connection section decoded picture data  
as a picture data obtained by decoding the second MPEG picture  
data in the second connection section,  
thereby recording the third connection section  
20 re-encoded data onto a recording medium.

33. The MPEG picture data recording method according  
to claim 32, wherein the recording step records a connection  
section MPEG multiplexed data that includes the third  
25 connection section re-encoded data as an element encoded data  
and that has been generated by being packet-multiplexed  
according to the MPEG encoding system.

34. An MPEG picture data recording method comprising  
30 a recording step of recording a generated third connection  
section re-encoded data that has been encoded according to  
an MPEG encoding system as a data for reproducing two MPEG  
picture data of a first MPEG picture data and a second MPEG  
picture data as a picture data encoded according to the MPEG  
35 encoding system by connecting the first MPEG picture data to  
the second MPEG picture data at specified connection positions

specified in the respective MPEG picture data, wherein

5 a first connection section is a section from a boundary of the first predetermined section located a first predetermined time before the specified connection position in the first MPEG picture data as the starting position to the specified connection position in the first MPEG picture data as an end position; a second connection section is a section from the specified connection position in the second MPEG picture data to a boundary of the second predetermined section located a second predetermined time after the specified connection position in the second MPEG picture data as an end position; and a third connection section is a section obtained by connecting the first connection section and the second connection section,

15 the recording step re-encodes a third connection section decoded picture data according to the MPEG encoding system thereby to obtain a third connection section re-encoded data and record the third connection section re-encoded data onto a recording medium, wherein the third connection section decoded picture data consists of a first connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in the first connection section, and a second connection section decoded picture data as a picture data obtained by decoding the second MPEG picture data in the second connection section, and

25 the re-encoding is executed while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value at the time of encoding the first MPEG picture data at a position corresponding to the specified connection position and ends with the information value relating to the VBV buffer occupation value at the time of encoding the second MPEG picture data at a position corresponding to the end position of the connection section.

35. An MPEG picture data reproducing apparatus for reproducing MPEG picture data as a picture data encoded according to the MPEG encoding system, the MPEG picture data reproducing apparatus comprising:

5       connectively reproducing means for obtaining a connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data by connecting the first MPEG picture data  
10       to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, and then connectively reproducing the first MPEG picture data and the second MPEG picture data, wherein

15       the connection section re-encoded data is re-encoded data generated by re-encoding the connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in the connection section, according to the MPEG encoding system, by executing the re-encoding while  
20       controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value at the time  
25       of encoding the first MPEG picture data at a position corresponding to a starting position of the connection section and ends with the information value relating to the VBV buffer occupation value at the time of encoding the second MPEG picture data at a position corresponding to the specified connection  
30       position in the second MPEG picture data, wherein the connection section is a section from a position located a predetermined time before the specified connection position in the first MPEG picture data as the starting position to the specified connection position in the first MPEG picture data as an end position, and

35       the connectively reproducing means reproduces the first MPEG picture data to the starting position of the connection section, and then reproduces the connection section re-encoded

data from the starting position of the connection section to the end position thereof, and then reproduces the second MPEG picture data from the specified connection position in the second MPEG picture.

5

36. The MPEG picture data reproducing apparatus according to Claim 35, wherein the first MPEG picture data is picture data obtained from a first MPEG multiplexed data that includes the first MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, the second MPEG picture data is picture data obtained from a second MPEG multiplexed data that includes the second MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, and the connection section re-encoded data is picture data obtained from a connection section MPEG multiplexed data that includes the connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

37. An MPEG picture data reproducing apparatus for reproducing MPEG picture data as a picture data encoded according to the MPEG encoding system, the MPEG picture data reproducing apparatus comprising:

connectively reproducing means for obtaining a connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, and then connectively reproducing the first MPEG picture data and the second MPEG picture data, wherein

the connection section re-encoded data is re-encoded data generated by re-encoding the connection section decoded

picture data as a picture data obtained by decoding the first  
MPEG picture data in the connection section, according to the  
MPEG encoding system, by executing the re-encoding while  
controlling the amount of code such that a transition of the  
5 information value relating to the VBV buffer occupation value  
at the time of the re-encoding starts from the information  
value relating to the VBV buffer occupation value at the time  
of encoding the first MPEG picture data at a position  
corresponding to the specified connection position in the first  
10 MPEG picture data and ends with the information value relating  
to the VBV buffer occupation value at the time of encoding  
the second MPEG picture data at a position corresponding to  
an end position of the connection section, wherein the  
connection section is a section from the specified connection  
15 position in the second MPEG picture data as a starting position  
to a position located a predetermined time after the specified  
connection position in the second MPEG picture data as the  
end position, and

the connectively reproducing means reproduces the first  
20 MPEG picture data to the specified connection position in the  
first MPEG picture, and then reproduces the connection section  
re-encoded data from the starting position of the connection  
section to the ending position thereof, and then reproduces  
the second MPEG picture data from the end position of the  
25 connection section.

38. The MPEG picture data reproducing apparatus  
according to Claim 36, wherein the first MPEG picture data  
is picture data obtained from a first MPEG multiplexed data  
30 that includes the first MPEG picture data as an element encoded  
data and that has been generated by being packet-multiplexed  
according to the MPEG encoding system, the second MPEG picture  
data is picture data obtained from a second MPEG multiplexed  
data that includes the second MPEG picture data as an element  
35 encoded data and that has been generated by being  
packet-multiplexed according to the MPEG encoding system, and



the connection section re-encoded data is picture data obtained from a connection section MPEG multiplexed data that includes the connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

39. An MPEG picture data reproducing apparatus for reproducing MPEG picture data as a picture data encoded according to the MPEG encoding system, the MPEG picture data reproducing apparatus comprising:

connectively reproducing means for obtaining a third connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, and then connectively reproducing the first MPEG picture data and the second MPEG picture data, wherein

the connection section re-encoded data is re-encoded data generated by re-encoding, according to the MPEG encoding system, the third connection section decoded picture data consisting of a first connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in the first connection section, and a second connection section decoded picture data as a picture data obtained by decoding the second MPEG picture data in the second connection section, by executing the re-encoding while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value at the time of encoding the first MPEG picture data at a position corresponding to a starting position of the first connection section and ends with the information value relating to the VBV buffer occupation value at the time of encoding the second MPEG picture

data at a position corresponding to an end position of the second connection position, wherein the first connection section is a section from a position located a first predetermined time before the specified connection position in the first MPEG picture data as the starting position to the specified connection position in the first MPEG picture data as an end position, the second connection section is a section from the specified connection position in the second MPEG picture data as a starting position to a position located a second predetermined time after the specified connection position in the second MPEG picture data as the end position, and the third connection section is a section obtained by combining the first connection section and the second connection section together, and

the connectively reproducing means reproduces the first MPEG picture data to the starting position of the first connection section, and then reproduces the third connection section re-encoded data from the starting position of the third connection section to the end position thereof, and then reproduces the second MPEG picture data from the end position of the second connection section.

40. The MPEG picture data reproducing apparatus according to Claim 39, wherein the first MPEG picture data is picture data obtained from a first MPEG multiplexed data that includes the first MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, the second MPEG picture data is picture data obtained from a second MPEG multiplexed data that includes the second MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, and the third connection section re-encoded data is picture data obtained from a connection section MPEG multiplexed data that includes the third connection section re-encoded data as an element encoded data and that has been generated by being

packet-multiplexed according to the MPEG encoding system.

41. An MPEG picture data reproducing method comprising  
a connectively reproducing step of obtaining a connection  
5 section re-encoded data that has been encoded according to  
an MPEG encoding system as a data for reproducing two MPEG  
picture data of a first MPEG picture data and a second MPEG  
picture data as a picture data encoded according to the MPEG  
encoding system by connecting the first MPEG picture data to  
10 the second MPEG picture data at specified connection positions  
specified in the respective MPEG picture data, and then  
connectively reproducing the first MPEG picture data and the  
second MPEG picture data, wherein

the connection section re-encoded data is re-encoded  
15 data generated by re-encoding the connection section decoded  
picture data as a picture data obtained by decoding the first  
MPEG picture data in the connection section, according to the  
MPEG encoding system, by executing the re-encoding while  
controlling the amount of code such that a transition of the  
20 information value relating to the VBV buffer occupation value  
at the time of the re-encoding starts from the information  
value relating to the VBV buffer occupation value at the time  
of encoding the first MPEG picture data at a position  
corresponding to a starting position of the connection section  
25 and ends with the information value relating to the VBV buffer  
occupation value at the time of encoding the second MPEG picture  
data at a position corresponding to the specified connection  
position in the second MPEG picture data, wherein the  
connection section is a section from a position located a  
30 predetermined time before the specified connection position  
in the first MPEG picture data as the starting position to  
the specified connection position in the first MPEG picture  
data as an end position, and

the connectively reproducing step reproduces the first  
35 MPEG picture data to the starting position of the connection  
section, and then reproduces the connection section re-encoded

data from the starting position of the connection section to the end position thereof, and then reproduces the second MPEG picture data from the specified connection position in the second MPEG picture.

5

42. The MPEG picture data reproducing method according to Claim 41, wherein the first MPEG picture data is picture data obtained from a first MPEG multiplexed data that includes the first MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, the second MPEG picture data is picture data obtained from a second MPEG multiplexed data that includes the second MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, and the connection section re-encoded data is picture data obtained from a connection section MPEG multiplexed data that includes the connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

43. An MPEG picture data reproducing method comprising a connectively reproducing step of obtaining a connection section re-encoded data that has been encoded according to an MPEG encoding system as a data for reproducing two MPEG picture data of a first MPEG picture data and a second MPEG picture data as a picture data encoded according to the MPEG encoding system by connecting the first MPEG picture data to the second MPEG picture data at specified connection positions specified in the respective MPEG picture data, and then connectively reproducing the first MPEG picture data and the second MPEG picture data, wherein

the connection section re-encoded data is re-encoded data generated by re-encoding the connection section decoded picture data as a picture data obtained by decoding the first MPEG picture data in the connection section, according to the

MPEG encoding system, by executing the re-encoding while controlling the amount of code such that a transition of the information value relating to the VBV buffer occupation value at the time of the re-encoding starts from the information value relating to the VBV buffer occupation value at the time of encoding the first MPEG picture data at a position corresponding to the specified connection position in the first MPEG picture data and ends with the information value relating to the VBV buffer occupation value at the time of encoding the second MPEG picture data at a position corresponding to an end position of the connection section, wherein the connection section is a section from the specified connection position in the second MPEG picture data as a starting position to a position located a predetermined time after the specified connection position in the second MPEG picture data as the end position, and

the connectively reproducing step reproduces the first MPEG picture data to the specified connection position in the first MPEG picture, and then reproduces the connection section re-encoded data from the starting position of the connection section to the ending position thereof, and then reproduces the second MPEG picture data from the end position of the connection section.

44. The MPEG picture data reproducing method according to Claim 43, wherein the first MPEG picture data is picture data obtained from a first MPEG multiplexed data that includes the first MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, the second MPEG picture data is picture data obtained from a second MPEG multiplexed data that includes the second MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, and the connection section re-encoded data is picture data obtained from a connection section MPEG multiplexed data that includes the

connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.

5           45. An MPEG picture data reproducing method comprising  
a connectively reproducing step of obtaining a third connection  
section re-encoded data that has been encoded according to  
an MPEG encoding system as a data for reproducing two MPEG  
picture data of a first MPEG picture data and a second MPEG  
10 picture data as a picture data encoded according to the MPEG  
encoding system by connecting the first MPEG picture data to  
the second MPEG picture data at specified connection positions  
specified in the respective MPEG picture data, and then  
connectively reproducing the first MPEG picture data and the  
15 second MPEG picture data, wherein

the connection section re-encoded data is re-encoded  
data generated by re-encoding, according to the MPEG encoding  
system, the third connection section decoded picture data  
consisting of a first connection section decoded picture data  
20 as a picture data obtained by decoding the first MPEG picture  
data in the first connection section, and a second connection  
section decoded picture data as a picture data obtained by  
decoding the second MPEG picture data in the second connection  
section, by executing the re-encoding while controlling the  
25 amount of code such that a transition of the information value  
relating to the VBV buffer occupation value at the time of  
the re-encoding starts from the information value relating  
to the VBV buffer occupation value at the time of encoding  
the first MPEG picture data at a position corresponding to  
30 a starting position of the first connection section and ends  
with the information value relating to the VBV buffer  
occupation value at the time of encoding the second MPEG picture  
data at a position corresponding to an end position of the  
second connection position, wherein the first connection  
35 section is a section from a position located a first  
predetermined time before the specified connection position

in the first MPEG picture data as the starting position to the specified connection position in the first MPEG picture data as an end position, the second connection section is a section from the specified connection position in the second  
5 MPEG picture data as a starting position to a position located a second predetermined time after the specified connection position in the second MPEG picture data as the end position, and the third connection section is a section obtained by combining the first connection section and the second  
10 connection section together, and

the connectively reproducing step reproduces the first MPEG picture data to the starting position of the first connection section, and then reproduces the third connection section re-encoded data from the starting position of the third  
15 connection section to the end position thereof, and then reproduces the second MPEG picture data from the end position of the second connection section.

46. The MPEG picture data reproducing method according to Claim 45, wherein the first MPEG picture data is picture data obtained from a first MPEG multiplexed data that includes the first MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, the second MPEG picture data is  
20 picture data obtained from a second MPEG multiplexed data that includes the second MPEG picture data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system, and the third connection section re-encoded data is picture data obtained from a  
25 connection section MPEG multiplexed data that includes the third connection section re-encoded data as an element encoded data and that has been generated by being packet-multiplexed according to the MPEG encoding system.  
30